



ATHLETIC IDENTITY PROFILE IN PEOPLE WITH PHYSICAL DISABILITIES

Proios Ioannis¹, Batsiou Sophia¹,

Proios Miltiadis^{2*i}, Mavrovouniotis Fotis²

¹Department of Physical Education and Sport Science,
Democritus University, Komotini, Greece

²Department of Physical Education and Sport Science,
Aristotle University, Thessaloniki, Greece

Abstract:

This study examined the perceived athletic identity and the effect factors that personal and disability-related characteristics (gender, age, family status (married, unmarried), education, occupational status, disability (congenital, acquired), type of disability (e.g., spinal cord injury) form of exercise, type of sport, experience, and form of games) in the formation of the athletic identity people with physical disabilities (n = 140). The participants completed a 7-item, 3-factor model of the Athletic Identity Measure Scale (AIMS; Brewer & Cornelius, 2001). The participants reported (a) a moderate social and exclusivity identity, and (b) strong negative affectivity identity. Additionally, they indicated that factors as family status, level education, disability, form of exercise, athletic experience and type of games affect significantly the formation of the athletic identity dimensions.

Keywords: athletic identity, physical disability, people profile, individual differences

1. Introduction

People with physical disabilities, today, are more and more strongly involved in physical activities. The development of these activities is usually done within organized institutions (social structures), for example sport teams and private gyms. The social structures in which a person takes part in, is a cause of formation and his/her identity (Power, Nuzzi, Narvaez, Lapsley, & Hunt, 2008). The participation of a person in sport social structures is a cause of the development of a separate identity which is called "athletic identity" and is one of the identities which a person develops during its life (Markus & Nurius, 1986).

ⁱ Correspondence: email mproios@phed.auth.gr

Athletic identity reports to the degree to which an individual identifies himself with role of an athlete (Brewer, Van Raalte, & Linder, 1993), which is a significant social dimension of self-concept, and it is affected by the experience, relations with the others and occupation with sport activities (Cornelius, 1995). Self-concept has been argued that it is a multi-dimensional structure that includes all of a person's thoughts and feelings about the self within various aspects of life (Horton & Mack, 2000; p. 102). In context of the multidimensional nature of self-concept the individuals do not generally make only global or overall assessments of themselves, instead, individuals make domain-specific judgements of personal value and competence in concrete situations (Brewer et al. 1993). Harter (1990) has maintained that the value or importance attributed to a given self-concept domain determines the extent to which perceived competence or incompetence in that domain influences self-esteem, affect, and motivation. Every situation can activate a different identity. The extent to which, for example, athletic identity is an important part of a person's self-concept will determine how likely it is that thoughts and behaviors related with the role of an athlete (motivation, performance) will be applied to a certain situation (Horton & Mack, 2000). Horton and Mack (2000) also suggested that *"the strength of athletic identity in a person's self-concept possibly varies with past and current athletic experiences and relative success or failure within the athletic domain"* (p. 102).

Brewer et al. (1993) have shown that athletic identity is a unique and important dimension of the self-concept that can be regarded not only as both a cognitive structure or self-schema, but also as a social role (Brewer et al., 1993). According to self-schema theory, a schema like the athletic identity shows a cognitive structure which is involved in the processing and organization of self-related information (Markus, 1977). Those schemas reflect what we think and care about, and we spend our time and energy. By using this definition for a schema athletic identity can be used as a basis for interpreting and processing information that drives a sport-oriented behavior and it is crucial on how a person will react to situations (e.g., injury, illness, non-realization of a scheduled training) which threaten their athletic role (Horton & Mack, 2000). So, considering the athletic identity as a cognitive structure, it can be considered that a person with an athletic sports identity is more likely to interpret an event according to the effects on athletic function, in relation with an individual who has a weak athletic identity, namely, it has invested to a lesser degree in the role of athlete. Instead, in the context of social role, athletic identity is influenced by the outside world. Therefore, the extent to which an individual interprets oneself as an athlete is influenced by, for example, family, coaches, trainers, friends, and the media and the appraisal of their attitudes towards that one's self (Brewer et al., 1993).

To assess of the athletic identity (i.e., the degree to which a participant identifies him or herself as an athlete) the Athletic Identity Measurement Scale (AIMS; Brewer et al., 1993) was developed, examining the athletic identity as a unidimensional construct. However, in the past decade researchers, based on quantitative investigations, have suggested several multi-dimensional models for the AIMS, as a 7-item 3-factor model (Brewer & Cornelius, 2001; Hale, James, & Stambulova, 1999; Proios, 2012a) and that the

construct of athletic identity should include, at least, three factors: (a) *social identity* that is the degree to which an individual view him/herself as occupying the role of an athlete, (b) *exclusivity* that is the degree to which an individual's self-worth is established through participating in the athletic role, and (c) *negative affectivity* is the degree to which an individual experiences negative emotions from unwanted sporting outcomes (Brewer, Boin, Petitpas, Van Raalte, & Mahar, 1993).

To date, the study of athletic identity construct has occupied the researchers for a long time. Nevertheless, this interest was not proportionate with disabilities population. More specifically the participants in the studies were skiers, swimmers and shooters with physical disabilities, people with spinal cord injury (Groff, Zabriskie, 2006; Kokaridas, Natsis, Makropoulos, Xatzigeorgiadis, & Karpathakis, 2005; Martin, 1999; Martin, Adams-Mushett, & Smith, 1995; Tasiemski, Kenndy, Gardner, & Blaikley, 2004). In these studies, different models of the AIMS were used (10-item, 1-factor; 9-item, 4-factor; 7-item, 1-factor). The above, i.e. the small number of studies, the limited number of participants and the wide variety of measuring instruments lead to an inability to understand the profile of the athletic identity of the people with physical disabilities.

The importance of this study lies in the effort to better understand the behavior of people with physical disabilities through the profile of athletic identity. The athletic identity can be characterized as a good indicator since it shows the way in which one's athletic involvement and experience can psychologically and cognitively affect the individual. It can help determine one's changes and acceptance of certain beliefs throughout his or her entire athletic career (Miller, Melnick, Barnes, Sabo, & Farrell, 2005; Miller, 2009). Moreover, athletic identity as a self-concept can define the way in which an individual evaluates his or her competence and worth (Richards & Aries, 1999). The amount of worth and competence an individual place on self-concept may influence their self-esteem, affect and motivation (Brewer et al., 1993). The understanding of the behavior of people with physical disabilities from the parents, coaches, and sport support personal (e.g., athletic trainers, team managers) can help in providing more effective support. An athlete, in many cases, can reach to a state of exhaustion. Identifying the problem that led to exhaustion, for example, creation strong and exclusive identities may help prevent overtraining, a precursor to burnout. Athletes with strong and exclusive identities may be at risk for emotional disturbance if injured (Brewer, Van Raalte et al., 1993; Martin et al., 1995). Providing such athletes with appropriate counseling services can aid adjustment to injury (Henschen & Shelley, 1993).

The purpose of the present study is to determine the athletic identity profile people with physical disabilities. Also, to determine if athletic identity is related to a number of demographic characteristics (i.e., gender, age, family status, education, occupational status, disability [congenital, acquired], type of disability, form of exercise, type of sport, experience, and form of games. We hypothesized based on literature that the athletic identity profile will vary in the demographic characteristics.

2. Method

2.1. Participants

The participants in this study were 140 people with physical disabilities ($n = 107$ men 76.4%, and $n = 33$ women 23.6%, while 10 people did not state their gender. Their age ranging from 14 to 67 years ($M = 35.31$, $SD = 10.67$), 10 people did not state their age. Ages ranged from 22 to 60 years old with a mean $M = 49.12$, $SD = 8.07$ years, and were split into four different age groups (14-22, 23-34, 35-44, and 45-67 years). Family status their participants were married ($n = 41$), and unmarried ($n = 99$). The education of participants was: primary school ($n = 3$), junior high school ($n = 18$), senior high school ($n = 66$), university ($n = 50$), and postgraduate ($n = 3$). The participants stated also their occupational status: private employee ($n = 20$), civil servant ($n = 17$), rentier ($n = 6$), freelancer ($n = 21$), student ($n = 15$), unemployed ($n = 26$), and other ($n = 35$). The disability of participants was congenital ($n = 37$), and acquired ($n = 97$), while 6 people did not state their disability. Their type disability was spinal cord injury ($n = 48$), brain palsy ($n = 21$), amputation ($n = 15$), poliomyelitis ($n = 6$), muscular dystrophy ($n = 5$), and other type ($n = 38$). A number people ($n = 133$) were involved in sport activities (117 competitive, and 16 recreational), and 6 people did not state involve in any activity. People with competitive activity were involved in the following sports: basketball ($n = 35$, 31.8%), track and field ($n = 25$, 22.7%), archery ($n = 5$, 4.5%), weightlifting ($n = 13$, 11.8%), fencing ($n = 3$, 2.7%), cycling ($n = 1$, 0.9%), swimming ($n = 15$, 13.6%), shooting ($n = 4$, 3.6%), boccia ($n = 1$, 0.9%), football ($n = 1$, 0.9%), skiing ($n = 2$, 1.8%), table tennis ($n = 3$, 2.7%), and volleyball ($n = 2$, 1.8%). In this study, sports were grouped into two types (a) teams and individuals, and (b) resistance, strength, and skill. The years of sport experience ranged from 0 to 40 years ($M = 10.18$, $SD = 9.22$), and were grouped into four groups: 0 years, 1-13 years, 14-27 years, and 28-40 years. The people with competitive activity were involved in games: Paralympics, Europeans, Nationals, and Sectionals.

2.2. Procedure

Prior to the beginning of the research, ethical approval and relevant permissions were asked from the participants. For individuals that participated in competitive sport activities in public sports organizations, special requests for permission were made for their participation to relevant authorities. Same process was followed for individuals who have not participated in sport activities, asking the relevant permission from the managers of rehabilitation centers. Following, the researchers informed the participants of the content of the questions featured in the questionnaires, as well as of the purpose of the present study.

2.3. Measurement

Athletic identity. A validated Greek version (Proios, 2012a) of the Athletic Identity Measurement Scale (AIMS; Brewer & Cornelius, 2001) was used. AIMS consists of seven statements concerning the athletes' perception of their identity in relation to sport. For each item, subjects responded to a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

This scale contained three subscales: Social Identity (three items; e.g., Most of my friends are athletes), Exclusivity (two items; e.g., Sport is the most important part of my life), and Negative Affectivity (two items; e.g., I feel bad about myself when I do poorly in sport" for negative affectivity). The reliability of the AIMS was calculated using alpha coefficient. Alpha coefficients for the social identity was ($\alpha = .77$), exclusivity ($\alpha = .84$) and negative affectivity ($\alpha = .67$), indicating good reliability for each (see Table 1).

2.4. Data analysis

Descriptive statistics were obtained, and preliminary data analyses were conducted to estimate the responses of people' on dimensions of athletic identity. Inferential statistics (ANOVA and MANOVA) were used to analyze the extent to which athletic identity varied based on demographic variables (gender, age, family status, education, occupational status, disability, type of disability, form of exercise, type of sport, experience, and form of games).

3. Results

3.1. Descriptive Statistics

Descriptive statistics (Table 1) initially revealed the general profile of athletic identity people with physical disabilities that were used in the present study. Specifically, the descriptive statistics was founded that the people with physical disability scored higher in dimension negative affectivity ($M = 4.85$, $SD = 1.59$). In addition, descriptive statistics established that the dimensions of athletic identity operate with a different way in a various demographic characteristics (see Table 2).

More specifically, descriptive statistics as presented in Table 2 have shown that men in this sample had slightly higher mean scores on the all AIMS subscales (social identity, $M = 4.39$, $SD = 1.45$; exclusivity, $M = 4.28$, $SD = 1.69$; and negative affectivity, $M = 4.97$, $SD = 1.53$) as compared to women (social identity, $M = 4.30$, $SD = 1.68$; exclusivity, $M = 4.07$, $SD = 1.77$; and negative affectivity, $M = 4.45$, $SD = 1.76$). Regarding the age groups, analyses shown slight higher mean scores on all AIMS dimensions in group 14-22 years (social identity, $M = 5.06$, $SD = .81$; exclusivity, $M = 4.67$, $SD = 1.17$; and negative affectivity, $M = 5.27$, $SD = .98$). Moreover, as presents in the Table 2 shows a tendency decrease of mean scores with the increase of age on all dimensions.

Regarding the family status, descriptive statistics showed that unmarried had enough higher mean scores on the all AIMS subscales (social identity, $M = 4.62$, $SD = 1.36$; exclusivity, $M = 4.51$, $SD = 1.61$; and negative affectivity, $M = 5.07$, $SD = 1.47$) as compared to married (social identity, $M = 3.79$, $SD = 1.67$; exclusivity, $M = 3.57$, $SD = 1.79$; and negative affectivity, $M = 4.32$, $SD = 1.77$). In education descriptive statistics revealed that people junior high school level also had enough higher mean scores on the all AIMS subscales (social identity, $M = 5.02$, $SD = 1.37$; exclusivity, $M = 4.72$, $SD = 1.80$; and negative affectivity, $M = 5.17$, $SD = 1.83$) versus of others education levels. Moreover, as presents in the Table 2, a possible tendency decrease of mean scores can to exist with the increase of education level.

For occupational status descriptive statistics indicated a prevalence in the mean scores of students on all the AIMS dimensions (social identity, $M = 5.27$, $SD = .86$; exclusivity, $M = 5.23$, $SD = 1.05$; and negative affectivity $M = 5.50$, $SD = .98$) versus of others status. The results of descriptive statistics were shown enough higher mean scores for the congenital disability (social identity, $M = 5.04$, $SD = 1.24$; exclusivity, $M = 4.80$, $SD = 1.59$; and negative affectivity $M = 5.39$, $SD = 1.35$) by the acquired disability (social identity, $M = 4.24$, $SD = 1.46$; exclusivity, $M = 4.13$, $SD = 1.68$; and negative affectivity $M = 4.75$, $SD = 1.55$). By examining the mean scores per type of disability, descriptive statistics revealed that the social identity and exclusivity ($M = 5.00$, $SD = 1.27$, and $M = 5.27$, $SD = 1.17$, respectively) scored highest on the type poliomyelitis, while the negative affectivity ($M = 5.50$, $SD = 1.04$) on the type amputation in relation to others type disability.

The results of descriptive statistics also revealed that in type exercise, the competitive had enough higher mean scores on the all AIMS subscales (social identity, $M = 4.78$, $SD = 1.18$; exclusivity, $M = 4.62$, $SD = 1.51$; and negative affectivity, $M = 5.16$, $SD = 1.35$) by the forms recreational and non. Regarding type of sport (team and individual) descriptive statistics showed a prevalence in the mean scores of team sports on the dimension negative affectivity ($M = 5.18$, $SD = 1.42$), while on the dimensions social identity ($M = 4.75$, $SD = 1.18$), and exclusivity ($M = 4.53$, $SD = 1.52$) in the individual sports. While for the type of sport (resistance, strength, and skill) descriptive statistics indicated a prevalence in the mean scores of strength type on all the AIMS dimensions (social identity, $M = 4.92$, $SD = 1.12$; exclusivity, $M = 4.71$, $SD = 1.61$; and negative affectivity, $M = 5.39$, $SD = 1.44$) versus of other types.

Regarding experience groups the people with experience 14-27 years presented enough higher mean scores on the dimensions social identity ($M = 5.19$, $SD = 1.35$) and exclusivity ($M = 4.90$, $SD = 1.82$), while the group 28-40 years on the dimension negative affectivity ($M = 5.93$, $SD = 1.17$) versus of other groups. Final, descriptive statistics also revealed that all the AIMS dimensions were presented enough higher mean scores on the Paralympic type game (social identity, $M = 5.41$, $SD = 1.02$; exclusivity, $M = 5.44$, $SD = 1.29$; and negative affectivity, $M = 5.69$, $SD = 1.15$) in relation to others type game.

3.2. Differences between Demographic Characteristics and Dimensions of Athletic Identity

Separate analyses of variances (MANOVA) were conducted to compare the mean values on athletic identity dimensions across to gender, age, family status, education, occupational status, disability, type of disability, form of exercise, type of sport, experience, and form of games.

Firstly, a one-way multivariate analysis of variance was performed with the use of three AIMS dimensions (social identity, exclusivity, and negative affectivity) as dependent variables and the Gender as independent variable. The multivariate tests did not reveal a significant main effect of gender (Wilks' lambda = .968, $F_{(3,135)} = 1.51$, $p > .05$). Same results were found and in other groups of demographic variables (age Wilks' lambda = .887, $F_{(3,127)} = 1.74$, $p > .05$, occupational status, Wilks' lambda = .827, $F_{(3,130)} =$

1.42, $p > .05$, type disability Wilks' lambda = .847, $F_{(3,124)} = 1.42$, $p > .05$, type of sport [team, individual] Wilks' lambda = .973, $F_{(3,107)} = 1.47$, $p > .05$, type of sport [resistance, strength, skill] Wilks' lambda = .949, $F_{(3,104)} = .92$, $p > .05$) following the same procedure for the checking the differences in the mean levels in relation with the above variables.

Another one-way MANOVA was conducted with the same dependent variables and the Family Status as independent variable. The multivariate test revealed a significant main effect of family status (Wilks' lambda = .928, $F_{(3,135)} = 3.49$, $p < .05$, $\eta^2 = .072$. According to J. Cohen (1988), guidelines for interpreting an eta-square value (η^2) is that .01 indicates a small effect, .09 indicates a moderate effect, and .25 indicates a large effect. Therefore, our finding $\eta^2 = .072$, indicates that 7.2% of the total variance in variables of athletic identity is accounted for by family status differences and as such it can be classified as a small effect. The univariate results showed significantly different effects and the three dimensions, social identity ($F_{(1,138)} = 9.36$, $p < .05$, $\eta^2 = .064$), exclusivity ($F_{(1,138)} = 9.06$, $p < .05$, $\eta^2 = .062$), and negative affectivity ($F_{(1,138)} = 6.64$, $p < .05$, $\eta^2 = .046$).

One-way MANOVA was conducted with the same dependent variables and the Education Level as independent variable. The multivariate test revealed a significant main effect of education level (Wilks' lambda = .852, $F_{(3,132)} = 1.82$, $p < .05$, $\eta^2 = .052$). The finding $\eta^2 = .052$, indicates that 5.2% of the total variance in variables of athletic identity is accounted for by education level differences and as such it can be classified as a small effect. The univariate results showed significantly different effect only for the dimension social identity ($F_{(1,138)} = 2.82$, $p < .05$, $\eta^2 = .078$) and exclusivity ($F_{(1,138)} = 3.92$, $p < .05$, $\eta^2 = .105$), while for dimension negative affectivity ($F_{(1,138)} = 1.34$, $p > .05$) did not revealed significant effect.

One-way MANOVA, also, was conducted with the same dependent variables and the Disability (congenital, acquired) as independent variable. The multivariate test revealed a significant main effect of disability (congenital, acquired) (Wilks' lambda = .936, $F_{(3,129)} = 2.95$, $p < .05$, $\eta^2 = .064$). The finding $\eta^2 = .064$, indicates that 6.4% of the total variance in variables of athletic identity is accounted for by disability (congenital, acquired) differences and as such it can be classified as a small effect. The univariate results showed significantly different effects and the three dimensions, social identity ($F_{(1,132)} = 8.64$, $p < .01$, $\eta^2 = .062$), exclusivity ($F_{(1,132)} = 4.32$, $p < .05$, $\eta^2 = .032$), and negative affectivity ($F_{(1,132)} = 4.89$, $p < .05$, $\eta^2 = .036$).

Another one-way MANOVA was conducted with the same dependent variables and the Form of Exercise as independent variable. The multivariate test revealed a significant main effect of form exercise (Wilks' lambda = .583, $F_{(3,133)} = 13.72$, $p < .01$, $\eta^2 = .236$. The finding $\eta^2 = .236$, indicates that 23.6% of the total variance in variables of athletic identity is accounted for by form exercise differences and as such it can be classified as a large effect. The univariate results showed significantly different effects and the three dimensions, social identity ($F_{(1,137)} = 47.80$, $p < .01$, $\eta^2 = .415$), exclusivity ($F_{(1,137)} = 27.96$, $p < .01$, $\eta^2 = .293$), and negative affectivity ($F_{(1,137)} = 20.31$, $p < .01$, $\eta^2 = .231$).

One-way MANOVA, also, was conducted with the same dependent variables and the Experience as independent variable. The multivariate test revealed a significant

main effect of experience (Wilks' $\lambda = .238$, $F_{(3,79)} = 1.74$, $p < .01$, $n^2 = .380$). The finding $\eta^2 = .380$, indicates that 38% of the total variance in variables of athletic identity is accounted for by experience differences and as such it can be classified as a large effect. The univariate results showed significantly different effects and the three dimensions, social identity ($F_{(1,109)} = 4.83$, $p < .01$, $n^2 = .577$), exclusivity ($F_{(1,109)} = 4.99$, $p < .01$, $n^2 = .438$), and negative affectivity ($F_{(1,109)} = 3.53$, $p < .05$, $n^2 = .368$).

Finally, one more one-way MANOVA was conducted with the same dependent variables and the Type of Game as independent variable. The multivariate test revealed a significant main effect of type game (Wilks' $\lambda = .795$, $F_{(3,101)} = 2.70$, $p < .01$, $n^2 = .074$). The finding $\eta^2 = .074$, indicates that 7.4% of the total variance in variables of athletic identity is accounted for by type of game differences and as such it can be classified as a small effect. The univariate results showed significantly different effects and the three dimensions, social identity ($F_{(1,106)} = 8.99$, $p < .01$, $n^2 = .163$), exclusivity ($F_{(1,106)} = 5.79$, $p < .01$, $n^2 = .144$), and negative affectivity ($F_{(1,106)} = 2.17$, $p < .05$, $n^2 = .059$).

4. Discussion

Athletic identity, like the other identities, is a set of concepts attached to the roles of the individuals they hold in the social structure of sports (Stryker, 2002), and are used as a standard η reference that drives the behavior (Stets & Biga, 2003). The concepts are linked to the roles of the people they hold in social structure as sports (i.e., athletic role). The measurement of the perceived level of athletic identity helps in the determining one's support in a sport. In addition, the impact of sports on the person psychologically and cognitively can be understood. This study analyzes personal characteristics that determine the people with physical disabilities behavior by analyzing three athletic identity dimensions: social identity, exclusivity, and negative affectivity.

In the present study descriptive results indicated that people with physical disabilities have relatively moderate levels of social and exclusivity athletic identity, and strong negative affectivity athletic identity. These data show that behavior of people with physical disabilities is determined by the degree of negative emotions that they experience from unwanted sporting outcomes. Contrary, the meanings of the other two identities, social and exclusivity, it does not seem to play a crucial role in the conformation of the behavior of people with physical disabilities. This suggests that many of these people with physical disabilities have self-schemas that are not limited solely to their athletic identities (Martin, Adams-Nushett, & Smith, 1995). The relatively low athletic identity level of the people of the present study is possibly due to the effort of self-protection from the obvious physical disabilities problems which they face in order to maintain a positive self-concept (Sedikidis, 2007).

The differences between various demographic characteristics and athletic identity dimensions also concerned the present study. Stets and Serpe (2013) reports that in identity occurs changes when the meanings of an identity shift over time (Stets & Serpe, 2013). According to Burke (2006), these changes in identity are a result of the changes in the situation which prompt by changes in the identity meanings, conflict

multiple identities meanings which happen to exist simultaneously in a situation, and conflict among the identity meanings and behavior meanings. Nevertheless, the findings of the present study did not show that the changes related with age to be statistically important. This finding is strengthened by the findings of other studies in people with physical disabilities (Groff, & Zabriskie, 2006; Groff, Lundberg, & Zabriskie, 2009), but also in able-bodied individuals (Brewer et al., 1993). Furthermore, in this study it was found that the scores on all athletic identities dimensions to decrease with the increase of age. The finding of the decrease is supported by the findings of other studies (Brewer, 1993; Brewer et al., 1993). Moreover, in this study a prevailing of the scores of the group 14-22 years old was found, which can be justified by the fact that the majority of identity of identity development is occurred between the ages 10-20 years (Houle, Brewer, & Kluck, 2010). Brewer, Van Raalte, and Lider (1993) suggested that this decrease can be due to the maturation of individuals, in the exposure to a variety of activities and influences, and in the decrease their exclusive identification with the athletic role.

In the present study, gender related differences in all athletic identity dimensions were examined. The findings showed that there are no differences between men and women in all athletic identity dimensions, despite the fact that men had higher scores. Similar findings have been reported from other studies too, which maintained that athletic identity is not affected by gender (e.g., Groff & Zabtiskie, 2006; Hoiness, Weathington, & Cotrell, 2008; Fraser, Fogarty, & Albion, 2008; Proios, 2017). On the contrary, a whole range of other researches maintained that athletic identity is stronger in males than females (e.g., Brewer et al., 1993; Tasiemski, Kennedy, Gardner, & Blaikley, 2004; Van Raalte & Cook, 1991; Wiechman & Williams, 1997). A possible reason for the lack of differences between men and women in athletic identity can be considered the dynamic role of gender in today's society and especially in sport involvement. Sport activity, through constant social interactions in practice, competitions, builds a feeling of capacity of participation in both males and females and enables female athletes to demonstrate typically "male" patterns of behavior (Tusak, Faganel, & Bednarik, 2005). In the present study no differences were, also, found in athletic identity dimensions in relation to occupational status, type disability, and type of sport (team, individual, and resistance, strength, skill).

In additional, the present study revealed that varied demographic characteristics (family status [married, unmarried], level education, type disabilities [congenital, acquired], form exercise [competitive, recreational, non], experience, and type of games) could affect the dimensions of the athletic identity. Regarding to family status (married, unmarried) the findings of the present study indicated that the perception of athletic role was significantly increased in unmarried than married. This finding supports that unmarried with physical disabilities possibly give greater importance of athletics is an individual's life (Brewer, 1993). This finding is supported from another study which revealed that singles manifested significantly higher scores on athletic identity than married, supported with this way that there can be significant other things that may relate to an exclusivity athletic identity (Nagata, 2014). This finding was expectable

because, theoretically, having a significant other mean that plays a role such as that of the spouse, and if the relationship deepens, more life roles are likely to manifest (e.g., a farther, a mother, a grandfather etc.). Moreover, it is referred that roles in professional environments, in academic environments, in friendships, or in a romantic relationship all are potential contributors to identity (Lemay, 1999). Based on this finding, it is expected unmarried with physical disabilities to have a stronger relationship with the people e.g., friends, teammates, coaches) that strengthen their athletic identity (Horton & Mack, 2000). However, the finding of the moderate to slight-strong level perception athletic identity suggests that athletic identity of unmarried with physical disabilities does not consist a powerful sensing factor of self-identity, their social interactions not intense enough, and they not strongly motivated_for_positive athletic experiences. This is strengthened by the finding of the finding of the higher score on the dimension negative affectivity athletic identity.

In this study, people with physical disabilities and with a junior high school level education had higher degree athletic identity in all three dimensions compared to other levels of education. The significant differences in education levels reflect a gradual change in the participants' perception, perhaps due to the effect of maturation. This finding is supported by a finding of another study which revealed that the student-athletes were strongly associated with their athletic role in their first years of college who later adopted an "inhibitory role" which reflected an increased investment in academic and social roles during the participants' upper years (Chen, Snyder, & Magner, 2010). Similar findings have been reported by Greendorfer and Blinde (1985) who found that the importance of sport was increased throughout high school and then drastically declined from freshman to senior year in college, and by Miller and Kerr (2003) who found a decline in the salience of the athletic role over the college career of student-athletes.

Physical disabilities cover a wide range of disabilities, including both congenital and acquired disabilities. However, a crucial difference between congenital and acquired disability could be exist, and more specifically in the extent to which people incorporate their disability into their self-concept (Smart, 2008). Indeed, the findings of this study have revealed significant differences between people with congenital and acquired disabilities in the self-concept for their athletic role. Findings of another study support the existence of differences in the perception of the athletic identity between people with congenital and acquired disabilities (Kokaridas, Natsis, Makropoulos, Xatzigeorgiadis, & Karpathakis, 2005). The finding of the lower score at the acquired disability can be explained by the fact that individuals with this type disability experiences the loss of many components of his/her identity: loss of independence, body integrity and mobility, loss of preexistent roles, regarding his/her job and his/her social relationships (Gordon & Benishek, 1996), resulting in a total functional discount (Charmaz, 1995; Gellman, Sie, & Waters, 1988; Gerhart, Bergstrom, Charlifue, Menter, & Whiteneck, 1993).

Regarding to form exercise the findings this study showed a higher perception for the athletic role by the people who were involved on competitive sport versus

recreational and non-participation. Further, the recreational form identified more strongly with the athletic role than the non-participants form. The findings of this study support previous findings (Brewer et al., 1993; Brewer & Cornelius, 2001; Good, Brewer, Prtittas, Van Raalte, & Mahar, 1993; Proios, 2012b; Tasiemski et al., 2004) that athletic identity increases according to sport participation level when a total AIMS score is considered. Even though other studies have not found a difference in the athletic identity among different athletic levels (e.g., Hurst, Hale, Smith, & Colins, 2000; Tusak, Faganel, & Bednarik, 2005), the present study is supported by the finding of another finding of this study which revealed that athletes with sport participation Paralympic Games level have a higher self-concept of their athletic role than those with European, National, and Sectional level. This finding strengthens the assumed that strong athletic identity is related in many cases with athletes who reach the highest levels of sport performance (Williams & Kane, 1993). Finally, in this study even though an existence of significant differences among experience groups regarding to the perception of people with physical disabilities for their athletic role, however they did not reveal a clear trend in years of experience. Specifically, the findings showed a clear upward trend only in the negative affectivity dimension, while for both others dimensions social and exclusivity identity the upward trend limited until the 27 years, following then a downward trend.

5. Limitations

This study is not without limitations. First, it should be noted that the assessment of strength of the athletic identity was based on self-reports. The sample of this study cannot be considered as representative to allow generalization of the results. Furthermore, a limitation of this study is the homogeneity of the participants, that is the existence small number non-participants on sport activities. A systematic future research is necessary.

6. Conclusions

In the present study, athletic identity was assessed as a multidimensional construct, taking into account the view that it should include, at least, three factors (social identity, exclusivity, and negative affectivity). The findings of this study led in the followings. Initially, for the 3-factor structure of the AIMS analyses revealed good internal consistency for this measure using people with physical disabilities. As a second conclusion could be, generally, reported the fact that people with physical disabilities are distinguished by a moderate to strong athletic identity level, and more specifically the identity of negative affectivity to reach in relative strong level, and the other two, social identity and exclusivity in a moderate level. Thirdly, it is concluded that the strength of athletic identity of the people with physical disabilities is affected by a number of factors like family status (married, unmarried), level education, of individuals, disability (congenital, acquired), form exercise (competitive, recreational,

non), athletic experiences, and type games. Simultaneously it is concluded that sports is an environment which strengthen the power of the athletic identity. Contrary factors like gender, age, occupational status, type disability (e.g., spinal cord injury), and type sport (team, individual, and resistance, strength, skill) did not show to exert a certain influence in the formation of athletic identity of people with physical disabilities.

Declaration of Interests

The authors report no conflict of interest. The authors alone are responsible for the content and writing of this article.

References

1. Brewer, B. W. (1993). Self-identity and specific vulnerability to depressed mood. *Journal of Personality*, 61, 343–364. doi:10.1111/j.1467-6494.1993.tb00284.x
2. Brewer, B. W., & Cornelius, A. E. (2001). Norms and factorial invariance of the Athletic Identity Measurement Scale. *Academic Athletic Journal*, 16, 103–113. doi:[10.1016/j.psychsport.2009.09.005](https://doi.org/10.1016/j.psychsport.2009.09.005)
3. Brewer, B. W., Van Raalte, J. L., & Linder, D. E. (1993). Athletic identity: Hercules' muscles or Achilles heel? *International Journal of Sport Psychology*, 24(2), 237–254.
4. Brewer, B. W., Boin, P. D., Petitpas, A. J., Van Raalte, J. L., & Mahar, M. T. (1993, August). *Dimensions of athletic identity*. Paper presented at the annual meeting of the American Psychological Association, Toronto, Canada.
5. Burke, P. J. (2006). Identity change. *Social Psychology Quarterly*, 69, 81–96.
6. Charmaz, K. (1995). The body, identity, and self: Adapting to impairment. *The Sociological Quarterly*, 36, 657–80. doi:10.1111/j.1533-8525.1995.tb00459.x
7. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
8. Cornelius, A. (1995). The relationship between athletic identity, peer and faculty socialization, and college student development. *Journal of College Student Development*, 36(6), 560–573.
9. Fraser, L., Fogarty, G., & Albion, M. J. (2008). *Is there a basis for the notion of athletic identity?* In: 43rd Australian Psychological Society Annual Conference 2008, 23–27 Sep 2008, Hobart, Australia.
10. Gellman, H., Sie, I., & Waters, R. L. (1988). Late complications of the weight-bearing upper extremity in the paraplegic patient. *Clinical Orthopaedics and Related Research*, 233, 132–135.
11. Gerhart, K. A., Bergstrom, E., Charlifue, S. W., Menter, R. R., & Whiteneck, G. G. (1993). Long-term spinal cord injury: Functional changes over time. *Archives of Physical Medicine and Rehabilitation*, 74, 1030–1034. doi:[10.1016/0003-9993\(93\)90057-H](https://doi.org/10.1016/0003-9993(93)90057-H)

12. Good, A. J., Brewer, B. W., Petitpas, A. J., Van Raalte, J. L., & Mahar, M. T. (1993). Identity foreclosure, athletic identity, and college sport participation. *The Academic Athletic Journal*, 8, 1-12.
13. Gordon, P. A., & Benishek, L. A. (1996). The experience of chronic illness: Issues of loss and adjustment. *Journal of Personal and Interpersonal Loss*, 1, 299-307. doi:10.1080/10811449608414387
14. Greendorfer, S. L. & Blinde, E. M. (1985). "Retirement" from intercollegiate sport: Theoretical and empirical considerations. *Sociology of Sport Journal*, 2, 101-110.
15. Groff, D. G. & Zabriskie, R. B. (2006) An exploratory study of athletic identity among elite alpine skiers with physical disabilities: Issues of measurement and design. *Journal of Sport Behavior*, 29(2), 126-141.
16. Groff, D. G., Lundberg, N. R., & Zabriskie, R. B. (2009). Influence of adapted sport on quality of life: Perceptions of athletes with cerebral palsy. *Disability and Rehabilitation*, 31(4), 318–326. doi: 10.1080/09638280801976233.
17. Hale, B. D., James, B., & Stambulova, N. (1999). Determining the dimensionality of athletic identity: A Herculean cross-cultural undertaking. *International Journal of Sport Psychology*, 30, 83-100.
18. Harter, S. (1999). *The construction of the self*. New York: Guilford.
19. Henschen, K. P., & Shelley, G. A. (1993). Counseling athletes with permanent disabilities. In D. Pargman (Ed.), *Psychological bases of sport injuries* (pp. 251-263). Morgantown, WV: Fitness Information Technology.
20. Hoiness, A. R., Weathington, B. L. & Cotrell, A. L. (2008). Perceptions of female athletes based on observer characteristics. *Athletic Insight*, 10(1). *Online Journal of Sport Psychology*, Available at: <http://athleticinsight.com/Vol10Iss1/PerceptionsofFemales.htm> [Accessed: 14th January 2010].
21. Horton, R. S. & Mack, D. E. (2000). Athletic identity in marathon runners: Functional focus or dysfunctional commitment? *Journal of Sport Behavior*, 23(2), 101-119.
22. Houle, J.L.W., Brewer, B. W. & Kluck, A. S. (2010). Developmental trends in athletic identity: A two-part retrospective study. *Journal of Sport Behavior* 33(2), 146-159.
23. Hurst, R., Hale, B., Smith, D., & Collins, D. (2000). Exercise dependence, social physique anxiety, and social support in experienced and inexperienced bodybuilders and weightlifters. *British Journal of Sports Medicine*, 34, 431-435.
24. Kokaridas, D., Natsis, P., Makropoulos, K., Xatzigeorgiadis, A., & Karpathakis, N. (2005). Sport orientation and athletic identity of Paralympic games' shooters. *Inquiries in Sport & Physical Education*, 3, 98-106.
25. Lemay, R. A. (1999). Roles, identities, and expectancies: Positive contributions to normalization and social role valorization. In R. J. Flynn & R. A. Lemay (Eds.), *A quarter-century of normalization and social role valorization: Evolution and impact* (pp. 219–240). Ottawa, ON: University of Ottawa Press.

26. Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology*, 35, 63-78. <http://dx.doi.org/10.1037/0022-3514.35.2.63>
27. Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, 41(9), 954-969. <http://dx.doi.org/10.1037/0003-066X.41.9.954>
28. Martin, J. J. (1999). Predictors of social physique anxiety in adolescent swimmers with physical disabilities. *Adapted Physical Activity Quarterly*, 16(1), 75-85.
29. Martin, J. J., Mushett, C. A. & Smith, K. L. (1995). Athletic identity and sport organization of adolescent swimmers with disabilities. *Adapted Physical Activity Quarterly*, 12, 113-123.
30. Miller, K. (2009). Sport -related identities and the "toxic jock." *Journal of Sport Behavior*, 32, 69-91.
31. Miller, P. S., & Kerr, G. A. (2003). The role experimentation of intercollegiate student athletes. *Sport Psychologist*, 17(2), 196-220. <https://doi.org/10.1123/tsp.17.2.196>
32. Miller, K. E., Melnick, M. J., Barnes, G. M., Farrell, M. P., & Sabo, D. (2005). Untangling the links among athletic involvement, gender, race, and adolescent academic outcomes. *Sociology of Sport Journal*, 22, 178-193.
33. Nagata, S. (2014). A pilot study of exclusivity of athletic identity among wheelchair rugby players: Implications for therapeutic recreation. *Therapeutic Recreation Journal*, 48(4), 320.
34. Power, F. C., Nuzzi, R. J., Narvaez, D., Lapsley, D. K., & Hunt, T. C. (2008). *Moral Education: A Handbook*. Westport, CT: Praeger. <http://dx.doi.org/10.1037/a0013371>
35. Proios, M. (2012a). Factor validity of the Athletic Identity Measurement Scale in a Greek sample. *International Journal of Sport & Exercise Psychology*, 10(4), 305-313. doi:10.1080/1612197X.2012.705518
36. Proios, M. (2012b). Athletic identity and achievement goals of gymnastics athletes. *Science of Gymnastics Journal*, 4(3), 15-24.
37. Proios, M. (2017). Exploring relationship between identities athletic and religious. *Trends in Sport Sciences*, 3(24), 117-122. Doi:10.23829/TSS.2017.24.3-4
38. Richards, S., & Aries, E. (1999). The division III student-athlete: Academic performance, campus involvement and growth. *Journal of College Student Development*, 40(3), 211-218.
39. Sedikides, C. (2007). Self-enhancement and self-protection: powerful, pancultural, and functional. *Hellenic Journal of Psychology*, 4, 1-13.
40. Smart, J. F. (2008). *Disability, society, and the individual* (2nd ed.). Austin, TX: Pro Ed.
41. Stets, J. E., & Biga, C. F. (2003). Bringing identity theory into environmental sociology. *Sociological Theory*, 21(4), 398-423. doi:10.1046/j.1467-9558.2003.00196.x
42. Stets, J. E., & Serpe, R. T. (2013). Identity theory. In J. DeLamater & A. Ward (Eds.). *Handbook of Social Psychology* (pp. 31-60). New York, NY: Springer.

43. Stryker, S. (2002). *Traditional symbolic interactionism, role theory, and structural symbolic interactionism*. In J. A. Turner (Ed.), *Handbook of Sociological Theory* (pp. 211-231). New York: Kluwer Academic/Plenum Publishers.
44. Tasiemski, T., Kennedy, P., Gardner, B. P. & Blaikley, R. A. (2004) Athletic identity and sports participation in people with spinal cord injury. *Adapted Physical Activity Quarterly*, 21, 364-378.
45. Tusak, M., Faganel, M., & Bednarik, J. (2005). Is athletic identity an important motivator? *International Journal of Sport Psychology*, 36, 39-49.
46. Van Raalte, N. S., & Cook, R. G. (1991, June) *Gender specific situational influences on athletic identity*. Paper presented at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity, Monterey, CA.
47. Wiechman, S. A., & Williams, J. (1997) Relation of athletes' identity to injury and mood disturbance. *Journal of Sport Behavior*, 20(2), 199-210.
48. Williams, J. M., & Krane, V. (1993). Psychological characteristics of peak performance. In J. M. Williams (Ed.) *Applied sport psychology* (2nd ed., pp. 137-147). Palo Alto, CA: Mayfield.

Table 1: Descriptive Statistics and Coefficient α Cronbach'

Μεταβλητές		MO	TA	α
Athletic identity	Social identity	4.37	1.50	.77
	Exclusivity	4.23	1.71	.84
	Negative affectivity	4.85	1.59	.67

Table 2: Descriptive Statistics per Demographic Characteristic and Differences Significance

Demographic characteristics		N	Social identity M(SD)	Exclusivity M(SD)	Negative affectivity M(SD)	Differences (Sig.)
Gender	Men	107	4.39 (1.45)	4.28 (1.69)	4.97 (1.53)	$p > .05$
	Women	33	4.30(1.68)	4.07(1.77)	4.45(1.76)	
Group Age	14-22	15	5.06 (.81)	4.67 (1.17)	5.27 (.98)	$p > .05$
	23-34	52	4.39(1.52)	4.51(1.67)	4.87(1.67)	
	35-44	44	4.37(1.45)	4.00(1.69)	4.95(1.50)	
	45-67	23	3.74(1.77)	3.48(1.91)	4.30(1.89)	
Family Status	Married	41	3.79(1.67)	3.57(1.79)	4.32(1.77)	$p < .05$
	Unmarried	99	4.62 (1.36)	4.51 (1.61)	5.07 (1.47)	
Level Education	Primary school	3	2.22(1.26)	1.50(.00)	3.00(2.18)	$p < .05$
	Junior high school	18	5.02 (1.37)	4.72 (1.80)	5.17 (1.83)	
	Senior high school	66	4.45(1.49)	4.45(1.67)	4.93(1.58)	
	University	50	4.20(1.47)	4.04(1.62)	4.71(1.50)	
	Postgraduate	3	3.78(1.39)	2.33(.58)	5.00(.87)	
Occupational Status	Private employee	20	3.65(1.66)	3.65(1.69)	4.35(1.64)	$p > .05$
	Civil servant	17	4.81(1.32)	4.59(1.61)	5.22(1.25)	
	Rentier	6	4.17(2.06)	4.00(2.07)	4.50(2.17)	
	Freelancer	21	3.76(1.55)	3.26(1.77)	4.45(1.88)	
	Student	15	5.27 (.86)	5.23 (1.05)	5.50 (.98)	
	Unemployed	26	4.29(1.53)	4.50(1.61)	4.67(1.64)	
	Other	35	4.67(1.31)	4.39(1.69)	5.10(1.54)	
Disability	Congenital	37	5.04 (1.24)	4.80 (1.59)	5.39 (1.35)	$p < .05$
	Acquired	97	4.24(1.46)	4.13(1.68)	4.75(1.55)	
Type Disability	Spinal cord injury	48	4.39(1.17)	4.15(1.38)	4.95(1.30)	$p > .05$
	Brain palsy	21	4.29(1.70)	4.00(1.89)	4.81(1.68)	
	Amputation	15	4.96(1.34)	5.23(1.51)	5.50 (1.04)	
	Poliomyelitis	6	5.00 (1.27)	5.25 (1.17)	4.00(1.14)	
	Muscular dystrophy	5	4.40(1.96)	5.00(1.69)	5.00(1.69)	
	Other	38	4.38(1.66)	4.88(1.89)	4.88(1.89)	
Form Exercise	Competitive	117	4.78 (1.18)	4.62 (1.51)	5.16 (1.35)	$p < .01$
	Recreational	16	2.71(1.24)	2.56(1.29)	3.56(1.66)	
	Non	6	1.06(.13)	1.17(1.71)	2.17(1.88)	
Type Sport (a)	Team	38	4.46(1.20)	4.39(1.41)	5.18 (1.42)	$p > .05$
	Individual	72	4.75 (1.18)	4.53 (1.52)	5.05(1.38)	
Type Sport (b)	Resistance	58	4.45(1.12)	4.31(1.36)	4.97(1.37)	$p > .05$
	Strength	38	4.92 (1.12)	4.71 (1.61)	5.39 (1.44)	
	Skill	13	4.72(1.52)	4.58(1.62)	4.77(1.24)	
Group Experience	0 years	6	1.06(.14)	1.17(.26)	2.17(1.89)	$p < .01$
	1-13 years	73	4.45(1.20)	4.32(1.14)	4.92(1.43)	
	14-27 years	25	5.19 (1.35)	4.90 (1.82)	5.46(1.27)	
	28-40 years	7	4.86(.84)	4.14(1.68)	5.93 (1.17)	
Type Games	Paralympic	24	5.41 (1.02)	5.44 (1.29)	5.69 (1.15)	$p < .01$
	European	15	5.04(.73)	4.77(1.15)	5.30(.94)	
	National	55	4.56(1.24)	4.38(1.46)	4.85(1.51)	
	Sectional	13	3.74(1.44)	3.46(1.94)	4.96(1.58)	

Creative Commons licensing terms

Authors will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Physical Education and Sport Science shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflict of interests, copyright violations and inappropriate or inaccurate use of any kind content related or integrated on the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a [Creative Commons attribution 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).